Forecasting diseases one image at a time

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by Nick Generous

Public health is like your plumbing: You don't notice it until it's broken. And when those safeguards and policies that are put in place to keep our communities healthy and strong are broken, the results can be devastating.

While developed countries like the United States have better public health infrastructure to quell epidemics, we are not immune. For instance, the CDC estimates that influenza has led to between 12,000 and 56,000 deaths annually since 2010.

Better tracking of infectious diseases can help us improve disease prediction and, consequently, more quickly stop their spread. At Los Alamos National Laboratory, we've been using mathematics and computer modeling since the early 2000s to do exactly that. It's easy to see how tracking diseases and stemming their spread are vital to national security. Diseases don't care about boundaries. They don't respect borders, and they aren't governed by political ideology. All it takes to spread an infectious disease is for an infected person to carry it from one place to another. In today's globally connected society, that's all too easy.

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